

Alternative Practices of Vaccination Among Parents in Selangor, Malaysia

**Sheikh Shafizal Sheikh Ilman¹, Zaikiah Mohd Zin²,
Norrafizah Jaafar³, Mohamad Zaidan Zulkepli⁴,
Muhammad Ridzwan Zakaria⁵, Manimaran Krishnan⁶**

Health Education Officer ^{1,2,3}, Risky Behavior Surveillance Research Center, Institute
for Health Behavioural Research

Health Education Officer ⁴, Health Education Unit, Sarawak General Hospital

Health Education Officer ⁵, Health Education Unit, Putrajaya Health Office

Director⁶, Institute for Health Behavioural Research, Ministry of Health Malaysia

Abstract

Parental refusal of vaccine is a growing concern as there is an increased occurrence of vaccine preventable diseases in children. However, there are limited studies that have looked into various alternative methods practised by parents who refused standard vaccination especially in Malaysia. This study aimed at exploring alternative methods taken by parents to enhance child immunity. Twenty-seven (27) parents were interviewed in Selangor between July and September 2017 via semi-structured interview questions. Audio recordings were transcribed verbatim and thematic analysis was conducted to ascertain key themes. Three main themes were recognized: 1) selective food practices, 2) alternative lifestyle practices and 3) traditional or complementary medicine (TCM) / supplement consumption practices. Consumption of As-Sunnah food, fresh food, healthy eating, avoiding processed food, junk food and synthetic flavouring are among selective food practices reported by parents. Alternative lifestyle practice encompasses preference for children to stay away from crowded places. Some parents preferred TCM or supplement consumption to substitute vaccinations such as homeopathy, traditional medicine and vitamins. As a summary, parental alternative practices are used to substitute vaccination which can never replace the true functionality of vaccines as these alternatives are merely compliments. It is recommended that MOH should formulate interventions that will alleviate misconceptions in order to decrease vaccine refusal rate.

Keywords: vaccine refusal, alternative practices, food practices, lifestyles practices, traditional and complementary medicine (TCM) /supplement practices, Malaysia.

Introduction

Preventing disease through vaccines is one of the greatest contributions towards public health achievement in the world. Experts reiterate by saying that no other public health effort except sanitized water has had such a major and beneficial impact (Pollard 2007). According to WHO, among the benefits of vaccines are extending life expectancy, protection against related cancer and also diseases and protection of the population among others (WHO 2008). Immunization is a necessary and effective

component of child services within public health but some parents choose to refuse or delay immunization for their children.

While some children cannot be vaccinated for medical reasons and in some areas vaccines are not readily available, a growing number of children are not vaccinated or are vaccinated late largely due to their parents' conscious decision (Pearce et al., 2008).

The resistance to be vaccinated or to delay vaccinations despite having available vaccinating services, has been dubbed vaccine hesitancy / refusal (Luthy et al., 2009; Gowda and Dempsey, 2013; World Health Organization, 2014, Succi, 2018). To better combat vaccine hesitancy and optimize interventions, factors associated with parents' decisions on vaccination need to be identified and investigated.

Parental vaccine hesitancy, including refusal and delay of childhood vaccines, has drawn increasing national concern over the past decade. (Dempsey et. al., 2011 and Omer et. al. 2006) Under immunization has been associated with elevated risk of vaccine-preventable disease in individual patients (Glantz et. al., 2010 and Glantz et. al., 2011) Beyond individual risk, nonmedical immunization exemptions have been associated with increased community risk of measles and pertussis outbreaks. Reasons given for this include religious reasons, personal beliefs or philosophical reasons, safety concerns, and a desire for more information from healthcare providers (Mc Kee & Bohannon 2016).

Methodology

An exploratory, descriptive study was conducted consisting of open-ended interviews with a sample size of 24 people. Interviews conducted are among parents or caregivers who refused vaccination at public health care facilities in Selangor. The purpose of the study was to determine the alternative practices of the groups for refusal or delay of immunization among children. Ethical approval has been obtained from the Medical Research Ethical Committee (MREC), Ministry of Health and the study has been registered with National Medical Research Registry (NMRR-17-516-34985). The study was conducted from June until December 2017.

Data Collection Method

Purposive sampling was used to obtain the sample of refusal parents and telephoned calls had been made to get their agreement to be interviewed. Once the agreement has been made, an appointment was set up. All of the interviews were audio-taped and confidentially transcribed after informed consent was obtained and demographic information collected. A research guide developed was then used to conduct the in-depth interview and field notes were prepared.

Sample Size Calculation and Selection

The sampling method used in this study is purposive sampling using Maximum Variation Sampling method. The numbers of informants calculated were between 16 – 24 people. To speed up the recruitment process, the clinic's staff assisted in contacting the potential parents for the interview session. This is to gain their trust in joining the study as clinic staff are the person they always meet on a regular basis. Due to lack of data saturation, researchers had to increase another three parents (10-15%).

Inclusion criteria:

- Parents (mother or father) /caregiver who refused vaccination for their children regardless of any vaccine (partial or total refusal) for their children within 24 months old based on the list from Monthly Report on Vaccine Refusal (2016) at the public health clinic.
- Open to various ethnic backgrounds but based on the availability of informants.

Exclusion criteria:

- Parents who refuse to participate in this study.
- Parents whose children have contraindications to vaccine.

Study Instrument and Data Management

The interview protocols are in Bahasa Malaysia and in English. Other instruments used are diary and voice recorders. Dropbox account with login and password created and only the research team can gain access to it. In order to maintain the quality and accuracy, data transcribed by the research assistant are then reviewed by the research team.

Data Analysis

The interviews were transcribed verbatim as the interviews after each interview ended. This process happened as the interviews went until the last informant. Research assistant and the interview will sit together for a pre-analysis stage to identify major themes and categories that emerged from the data. The transcripts were coded to define the coding frame. The thematic analysis was used to analyse information from the interviews. Inconsistency regarding the coding was eliminated by discussion until an agreement is achieved among the team members. The themes identified were then categorized as main and subtheme.

Findings

In total 27 parents were interviewed in this study consisting of partial and total refusal of vaccination for their children. All parents were Malay Muslim comprising of 10 males and 17 females. The parents in this study gave three alternative practices towards their refusal of vaccination for their children. 6 of the parents are not working and only 17 of them are attending tertiary education. Majority of the parents are from the age of 40 and below.

The parents in this study gave three alternative practices towards their refusal of vaccination for their children. Alternative substitutes towards vaccination; food intake of parents and eating style that shown by parents to their children. Traditional and Complementary Medicine (TCM) practices; their comprehensive preventive and health promoting practices which, they believed, replaced the need for vaccines. Lifestyle practices; a change in children's way of life that was implemented by the vaccine refusal parents.

Alternative Food Practices

Three main themes emerged from parents' reported alternative food practices: As-Sunnah food, fresh food and healthy eating.

As-Sunnah food is practise by parents whom wanted to follow what is thought in Al-Quran and hadith (Prophet Muhammad S.A.W way of life) in order to substitute for vaccine. They felt that by giving Habbatus Sauda, olive oil, dried grapes, dates, apple vinegar, pomegranate, honey and goats' milk will be

natural food. One of the parents will give honey to alleviate their children's cough as it is one of the ingredients found in cough syrup.

“Usually, I will try to practice what is stated in the Quran and hadith, for example, fruits that are mentioned in Quran like olives, fruits like dried grapes (raisins), dates ... and habbatus sauda, or olive oil or erm ... dates vinegar, apple vinegar, we are more to that that kind of things actually, for me, more natural and I will always buy honey in dozens” (Informant IDI#8)

“I give sunnah food only. If he is coughing, in all cough medicines there is honey right, so I give honey, Alhamdulillah, he is well. In the morning I will give honey, pomegranate. If milk, goat's milk” (Informant IDI#2)

The need to eat **fresh food** is so profound in the views of the parents. They rather go directly to the fish landing source such as Kuala Selangor in order to get fresh fish every week. One of the parents will cook the food themselves without using flavouring product such as salt and sugar.

“We use parboiled rice. We take really fresh fish, not the ones they sell at market, I will go all the way to Kuala Selangor, every Saturday I go there” (Informant IDI#10)

“What I can afford to give my child is homemade food, without sugar, without salt” (Informant IDI#4)

The parents also will practise healthy **eating** wherever possible. They will prefer their children to not eat fast food and instant noodles. Parents will avoid eating food such as canned food, artificial colouring and flavours at all cost. Children will have to follow portion control such as only eating one piece of chicken. Parents also ask their children to finish up the vegetable dish such as leafy types and cabbage.

“We don't give fast food to them, we take care about it, instant noodles all we don't give. I didn't eat it also when I was young. Even my father also took care of all this. The sauces, chilli sauce, tomato sauce, canned foods which has preservatives, we reduce the intake, if possible, we avoid it” (Informant IDI#14)

“If chicken, one piece per person, not more than that. If having vegetables, must finish it. The vegetables... will be the types that they like. If at home, only two types, the green vegetables and cabbage, that's the one they normally will eat” (Informant IDI#16)

“... canned food with preservatives, we reduce taking it, if can avoid, we avoid it ...all mixed flavours, artificial flavours, artificial colours are not good for me” (Informant IDI#14)

Traditional and Complementary Medicine (TCM) Practices

TCM is perceived as beneficial and positive by the parents. TCM believed to be healthier and natural thus provide quick recovery towards their ailment. TCM are believed to not have any drugs as one of their ingredients. Thus, parents take this TCM as their first line of treatment to fight their sickness. Among the TCM that they consume are herbs, lemon, coconut water, pomegranate juice, Sabah snake grass, honey and virgin coconut oil. On the other hand, few parents took supplements such as Vitamin C as their daily routine. The supplements taken are usually easily consumable.

“When I give her homeopathy, natural products, she will recover quickly. Aaa the medicine is not based on drugs, the medicines are made from natural products, from herbs. From plants, from roots, honey, habbatus sauda” (Informant IDI#5)

“Like myself, If I am very sick or what, I will still go for herbal first” (Informant IDI#13)

“Pomegranate juice, Sabah snake grass, honey, VCO, the main is the VCO” (Informant IDI#10)

“Sometimes we have got to take supplements too... (product A) like that la..like the gummy type ... it’s like sweets ” (Informant IDI#16)

Lifestyle Practices

One of the parents believed that by reducing the chances of contracting disease they would not need to be vaccinated. This is by avoiding crowded places and furthermore they also believed that their child too doesn’t like to go outside and prefers to stay indoors.

“Will be more careful, won’t go much to public places” (Informant IDI#16)

“Won’t bring him outside because he also doesn’t like going outside, it doesn’t suit him...” (Informant IDI#1)

Discussion

Findings from this study showed that parents prefer to give their children fresh and healthy homemade food including As Sunnah. At the same time, they avoid junk and processed food as well as reducing sugar, salt, oil, and synthetic flavouring in their food preparation. Similar to this finding, Ward et al. (2017) revealed that parents in his study used alternative practices such as feeding their children with home-grown food as well as organic fruits and vegetables. They also prepared homemade food which helps in reducing preservative consumption and exposure to chemicals and toxins.

Although these foods are called “super foods” that contain various bioactive compounds which play an important role to inhibit or to cure diseases such as cancer, diabetes and hypertension (Ali, Parveen & Ali, 2018) however, it is not proven to prevent VPD, unlike vaccination.

Parents in this study mentioned that TCM/CAM such as homeopathy, traditional remedies and supplements are alternatives practised by them to replace vaccines. This is supported by Atwell (2017), highlighting general exposure to CAM amongst the parents who used significant alternatives such as Chinese herbs, herbalists, homeopaths, acupuncture and chiropractor. Parents developed trust on CAM as part of their practices based on childhood experiences, familiarity, and reported positive past experiences. They perceived it as natural, not harmful, nonindustrial, and effective. Parents also viewed CAM as helping their children to fight illnesses that would be brief and mild, particularly because they had maintained immune systems

as temples free from “toxic” vaccines (K. Atwell at al 2017). Hence, due to the belief in its huge benefits, parents reject vaccination and prefer to use CAM as mentioned by Zuzak et. al (2008) and Atwell et. al (2017) in their studies. Study done by Frawley et al (2018) also shows that lower rates of vaccination are associated with Australian parents who visit complementary medicine practitioners.

Furthermore, normative use of traditional remedies is well established in the country and co-exist with modern medicine. Parents believe that traditional medicine which derives from natural herbs, plants and roots will definitely cure their children if any ailment occurs. This then is boosted by the consumption of supplements given to their children. It is noteworthy that in this study a considerable number of the parents use traditional medicine to replace vaccines. Furthermore, a study done by J. Rumetta et al (2020) shows that parents believed modern medicine doesn't cure or treat the root cause of disease. As vaccination is also a modern medicine discovery study done by Ojikutu (2012) indicate that respondents use herbal concoction or any other form of self-medication rather than the recommended vaccine dose.

Another interesting finding in this study is that a few of the parents claimed that they keep the children away from crowded places as a way to prevent them from getting infected with diseases. Spreading of disease is shown to be increased with an increase of people within an area (Goscé et al 2014). This finding is also consistent with Harmsen et. al. (2013), whereby to protect themselves from contagious disease, parents will minimize travelling and shopping with their children. They are determined to live their own way, as they feel that vaccination is not needed to prevent them from getting any diseases.

Conclusion

It can be concluded that alternative practices by parents that refuse to vaccinate their children are based on various factors. Firstly, they have alternative food practices that based on the teachings of the Prophet, they also prefer to eat fresh food and omit the intake of instant and junk food. These practices make them believe it will boost their immune system and simultaneously will not need the vaccine injection for their children. Secondly, as a line of treatment whenever the children are sick, parents will rely on TCM remedies. This is because TCM are believed to be healthier and natural thus provide quick recovery towards their ailment. The parents think that allopathic medicine is harmful to their children as the medicines are based on drugs. Thirdly, parents believe the children's lifestyle practice will hinder the need towards vaccination. They believed that by limiting the chances of contracting disease, they would not need to get vaccinations for their children. This is achieved by not going to crowded places and confined their children in their home.

Therefore, the government must ensure that these parents' claims towards these practices are really substantiated. Parents must be made aware of numerous researches done that shows the utmost need of vaccination for children in order to deter disease. Parents that oppose vaccination should intervene before the ideas adopted by the public. Intervention package must be developed to alter any misconception towards vaccination. All parties including government and the public alike must join hand in hand to stop and reverse the current trend of vaccination refusal.

Acknowledgement

We would like to thank the Director General of Health and Deputy Director-General of Health (Research and Technical Support), Ministry of Health Malaysia for permission to publish this paper. We would also like to express thanks to the health staff and to all parents for their contribution. A very special thanks dedicated to Madam Zaikiah Mohd Zin, for the valuable comments and suggestions to improve the manuscript. Lastly, we would also like to express appreciation for all the support from all parties that have contributed directly or indirectly to complete this study.

Funding: No funding sources

Conflict of interest: None declared

References

1. Andre F.E., Booy R., Bock H.L., Clemens J., Datta S.K., John T.J. and Santosham M. (2008). Vaccination Greatly Reduces Disease, Disability, Death And Inequity Worldwide. *Bulletin of The World Health Organization*, 86, 140-146.
2. Attwell K., Ward P.R., Meyer S.B., Rokkas P.J. and Leask J. (2018). “Do-It-Yourself”: Vaccine Rejection And Complementary And Alternative Medicine (CAM). *Social Science & Medicine*, 196, 106-114.
3. Frawley J.E., McIntyre E., Wardle J. and Jackson, D. (2018). Is There An Association Between The Use Of Complementary Medicine And Vaccine Uptake: Results Of A Pilot Study. *BMC research notes*, 11(1), 217.
4. Goscé L., Barton D.A. and Johansson A. (2014). Analytical Modelling Of The Spread Of Disease In Confined And Crowded Spaces. *Scientific reports*, 4, 4856.
5. McKee C. and Bohannon K. (2016). Exploring The Reasons Behind Parental Refusal Of Vaccines. *The Journal of Pediatric Pharmacology and Therapeutics*, 21(2), 104-109.
6. Pollard A.J. (2007). Childhood Immunisation: What Is The Future?. *Archives of disease in childhood*, 92(5), 426-433.
7. Rumetta J., Abdul-Hadi H. and Lee Y.K. (2020). A Qualitative Study On Parents’ Reasons And Recommendations For Childhood Vaccination Refusal In Malaysia. *Journal of Infection and Public Health*, 13(2), 199-203.
8. Pearce A., Law C., Elliman D., Cole T. J. and Bedford, H. (2008). Factors Associated With Uptake Of Measles, Mumps, And Rubella Vaccine (MMR) And Use Of Single Antigen Vaccines In A Contemporary UK Cohort: Prospective Cohort Study. *bmj*, 336(7647), 754-757.
9. Dempsey A.F., Schaffer S., Singer D., Butchart A., Davis M. and Freed G.L (2011). Alternative Vaccination Schedule Preferences Among Parents Of Young Children. *Pediatrics*. 2011;128(5):848–856.
10. Omer S.B., Pan W.K., Halsey N.A., Stokley S., Moulton, L. H., Navar, A. M., ... and Salmon D.A. (2006). Nonmedical exemptions to school immunization requirements: secular trends and association of state policies with pertussis incidence. *JAMA*, 296(14), 1757-1763.
11. Glanz J.M., McClure D.L., Magid D.J., Daley M.F., France E.K. and Hambidge S.J. (2010) Parental Refusal Of Varicella Vaccination And The Associated Risk Of Varicella Infection In Children. *Arch Pediatr Adolesc Med.*;164(1):66–70.
12. Glanz J.M., McClure D.L., O’Leary S.T., Narwaney K.J., Magid D.J., Daley M.F. and Hambidge S.J. (2011). Parental Decline Of Pneumococcal Vaccination And Risk Of Pneumococcal Related Disease In Children. *Vaccine*, 29(5), 994-999.
13. Succi R.C.D.M. (2018). Vaccine Refusal-What We Need To Know. *Jornal de pediatria*, 94, 574-581.